

Australian Plant Census Precursor Papers 1

Introduction to the series

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The Australian Plant Census (APC) is an ongoing national cooperative project to produce a consensus list of the vascular flora of Australia with synonyms reflecting past taxonomic concepts.

Origins of the Australian Plant Census

Until now plant census lists in Australia have mainly been compiled and maintained on a State or Territory basis, with, at most, limited and regional synonymy. The last national plant census was that of Hnatiuk (1990), and the ones before that were by Mueller (1882, 1889).

Since 1991 Australia has also been fortunate to have available the Australian Plant Name Index (APNI), at first as a printed work (Chapman 1991) and later as a website (Australian National Herbarium et al. 2004).

APNI provides a comprehensive view of the major literature of Australian vascular plant taxonomy associated with the Australian flora, with information on places of publication of names, indications of synonymy in papers by the original and secondary authors, type citations and some notes on nomenclature. What it has not provided are value judgements on the names listed. There was little or no information presented on which were accepted names and which were synonyms, and little on alternative taxonomies.

It was left to users to access the botanical literature, censuses and other works, and to develop their own view of currently accepted names and their synonyms. While APNI provided some information on distribution, this was derived from the tables in Hnatiuk (1990), derived from sources such as state censuses, floras and monographs. These data are now frequently out of date.

In the late 1990s and into the early 2000s, individuals, institutions and organisations decided to work together to try to produce a single consensus view of the accepted names for the Australian vascular flora based on the APNI, State and Territory censuses and Floras, taxonomic monographs and revisions, and expert advice. It was not intended that this view should be formally binding: its use by any individual or organisation was to be purely optional. It was intended that, through this collaborative approach, it would

- have the immediate and ongoing support of the majority of the Australian taxonomic community as a day-to-day working list,
- so far as possible in the Australian context, provide full synonymies
- provide an indication for accepted taxa of their distribution in Australia and Territories at least to State level
- reflect, at least in overview, alternative taxonomies, and
- provide commentary on nomenclatural complexities and other related matters.

This list, which became known as the Australian Plant Census, was to be available electronically as a searchable database built on APNI as a bibliographic and nomenclatural source. In effect, it was to provide a view of the APNI data, reorganised as formal synonymies, with recommended name usages, and seamless links from the synonymies to the underlying literature resources.

A major driver of the Australian Plant Census was a growing perception of need for a single agreed view

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of the Australian flora for users of flora information; the single view of birds provided by the RAOU Bird Lists (Barrett et al. 2003), for example, had long proved beneficial in publications and other communication, with taxonomic controversy able to go on behind the scenes unconstrained by the need to consider impact on the broader user. A catalyst was the development of Council of Heads of Australasian Herbaria (CHAH)'s vision of the Australia's Virtual Herbarium; the concept provided funding for capture of the nation's 6 million specimens housed in the principle herbaria across the continent.

The Australian Plant Census project

In 2005 CHAH, as lead organisation for production and maintenance of the APC, obtained a grant from the Natural Heritage Trust for a two-year pilot project to compile the 'first pass' of the APC. A Project Officer (AEO) was appointed as the project's Coordinator, based at the Australian National Herbarium, which hosts and provides a team servicing the APNI database (Table 1). CHAH provided substantial additional support, with each member herbarium providing unlimited access to one of their staff as a member of an APC Working Group. Backup staff members were also nominated to the Working Group.

The normal operating procedure is for the Coordinator to draft initial synonymies family-by-family. The drafts are circulated to the Working Group who consult with colleagues. Comments and changes resulting from this consultation are incorporated in the family lists, which are then circulated to CHAH for final approval. Additional funding has been provided by CHAH and private sources to support entry of the agreed family classification into the APNI database.

The project began in April 2005, and the first pass initial compilation encompassing the vascular flora including its major synonymy and distributional data, is scheduled to be completed in April 2007. By that time it is expected that a 'first pass' census of the Australian vascular flora, with its major synonymy and distributional data, will be completed. Plans will also be developed for its further development, including searching of secondary literature for additional synonyms, further entry of alternative taxonomies, and extension to other plant groups, and for its on-going maintenance.

Further information on the project, including updates on progress, and website addresses to access the data, can be found in West (2005), Council of Heads of Australasian Herbaria (2006), and Orchard (2005a, b, c, 2006a, b).

The Australian Plant Census precursor papers

This is the first in a series of papers addressing minor nomenclatural problems encountered during compilation of the Australian Plant Census. These papers will be

Table 1. Personnel and insitutional representation in the Australian Plant Census project. Modified from Council of Heads of Australasian Herbaria (2006).

Personnel	Institution
<i>Project Coordinator</i>	
A.E. Orchard (2005–06)	Australian National Herbarium (CANB) (employed through Northern Territory Herbarium)
A. Monro (2006–)	Australian National Herbarium (CANB)
<i>Working Group members (backup)</i>	
Robyn Barker (Helen Vonow) 2005–	State Herbarium of South Australia (AD)
Ailsa Holland (Peter Bostock) 2005–	Queensland Herbarium (BRI)
Brendan Lepschi (Kirsten Cowley) 2005–	Australian National Herbarium (CANB)
Dale Dixon 2005– Ian Cowie 2006– Philip Short 2006–	Herbarium of the Northern Territory (DNA_)
Alex Buchanan (Marco Duretto) 2005–	Tasmanian Herbarium (HO)
Neville Walsh (Val Stajsic) 2005–	National Herbarium of Victoria (MEL)
Peter Wilson (Joy Everett) (2005–)	National Herbarium of New South Wales (NSW)
Terry Macfarlane (Cheryl Parker) 2005–	Western Australian Herbarium (PERTH)
<i>Council of Heads of Australasian Herbaria approval</i>	
Bill Barker 2005–	State Herbarium of South Australia (AD)
Gordon Guymer 2005–	Queensland Herbarium (BRI)
Judy West 2005–	Australian National Herbarium (CANB)
Greg Leach 2005– Dale Dixon 2005–06	Herbarium of the Northern Territory (DNA_)
Gintaras Kantvilas 2005–	Tasmanian Herbarium (HO)
Jim Ross 2005 Teresa Lebel 2006 David Cantrill 2006–	National Herbarium of Victoria (MEL)
Brett Summerell 2005–	National Herbarium of New South Wales (NSW)
Neville Marchant 2005 Nick Lander 2006 Kevin Thiele 2006–	Western Australian Herbarium (PERTH)
<i>Information management</i>	
Bronwyn Collins 2006– Kirsten Cowley 2005– Jim Croft 2005– Murray Fagg 2005– Brendan Lepschi 2005– Anna Monro 2005– Greg Whitbread 2005–	Australian National Herbarium (CANB)
<i>Specialist taxonomic advice</i>	
See APC website	< www.chah.gov.au/chah/apc/contributors.html >

restricted to short communications about such matters as lectotypification and necessary recombinations and short discussions of nomenclatural problems. Longer papers will be published separately.

The format will be an umbrella-type heading, followed by self-contained short papers each with its own author(s). These papers should be cited as follows in the way the first paper in the series is cited here:

Orchard, A.E., George, A.S. & Brummitt, R.K., (2007) Australian Plant Census precursor papers I: Publication and lectotypification of the name *Stenocarpus sinuatus* (Proteaceae). *J. Adelaide Bot. Gard.* 21: 85–87.

Different Australian herbarium house journals may be used for publication of the series from time to time, depending on publication schedules.

Acknowledgements

Apart from acknowledging the hard work contributed by the State-based members of Working Group, CHAH, and the Information Management Group (listed in the table above) I would like to place on record my sincere thanks to all those other colleagues who have contributed data and encouragement to this project. To date the census has truly been a national effort, and one which demonstrates the collegiality of Australian plant taxonomy, and it shows every sign of continuing thus. In particular I wish to thank Bill Barker and Jim Croft, both for keeping me focused on the project, and for very useful suggestions to improve this overview.

References

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Barrett, G., A. Silcocks, S. Barry, R. Cunningham & R. Poulter (2003). *The New Atlas of Australian Birds*. (CSIRO Publishing, Collingwood)

Council of Heads of Australasian Herbaria (2006). Australian Plant Census. A database of plant names for Australia. Viewed in October 2006 on <<http://www.chah.gov.au/chah/apc/index.html>>.

Hnatiuk, R.J. (1990). *Census of Australian Vascular Plants*. (Australian Flora & Fauna Series Number 11. AGPS Press, Canberra).

Mueller, F. von (1882). *Systematic Census of Australian Plants*. (Victorian Government Printer, Melbourne).

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Orchard, A.E. (2005c). CHAH Business. Australian Plant Census. *Austral. Syst. Bot. Soc. Newslett.* 125: 15–16.

Orchard, A.E. (2006a). CHAH Business. Australian Plant Census. *Austral. Syst. Bot. Soc. Newslett.* 126: 30–31.

Orchard, A.E. (2006b). CHAH Business. Australian Plant Census. *Austral. Syst. Bot. Soc. Newslett.* 127: 16–17.

West, J. (2005). The Consensus Census: The List of Agreed Australian Vascular Plant Names. *Austral. Syst. Bot. Soc. Newslett.* 122: 10.

Publication and lectotypification of the name *Stenocarpus sinuatus* (Proteaceae)

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The Firewheel Tree or Yiel-yiel is well known in cultivation and as a street tree, and admired for both its glossy dark green foliage and its spectacular radiating umbels of red and yellow flowers.

Most recent references (e.g. Foreman 1995; Henderson 2002) give its name as *Stenocarpus sinuatus* (Loudon) Endl., following Chapman (1991). Exceptionally Stanley & Ross (1986) and Harden (2002) cite the name as *Stenocarpus sinuatus* Endl.

The species epithet was first published by Loudon (1832), who utilised an Allan Cunningham manuscript name 'Agnostus sinuatus' in a list of plants growing

in England. Loudon pointed out that Cunningham's generic name meant "unknown; provisional name". However, Loudon accepted it, so it was not a nomen provisorium, but he did not provide a validating description. In the table of properties accompanying the list were symbols meaning "Evergreen tree", "15 feet", "ornamental" and "greenhouse". The tabular format of Loudon's publication is comparable with that of Sweet's *Hortus Britannicus* which is ruled in Ex. 3 of Art. 32 as not providing validating descriptions. The generic-specific combination is thus a nomen nudum and invalidly published. There was a note accompanying

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